

WHAT IS CLAIMED IS:

1. A head suspension assembly comprising:
  - a magnetic head slider with at least one thin-film magnetic head element;
  - a support member for supporting said magnetic head slider at a top end portion thereof;
  - a drive circuit electrically connected to said at least one thin-film magnetic head element; and
  - at least two diode elements connected toward one direction in parallel with terminals which are connected across said at least one thin-film magnetic head element, each of said diode elements having a turn-on voltage higher than the maximum output voltage of said at least one thin-film magnetic head element.
2. A head suspension assembly as claimed in claim 1, wherein each of said diode elements is a diode element having a turn-on response speed equal to or less than 1.5 nanoseconds.
3. A head suspension assembly as claimed in claim 1, wherein said drive circuit and said at least two diode elements are formed within an IC chip.
4. A head suspension assembly as claimed in claim 3, wherein said IC chip is mounted on said support member.

5. A head suspension assembly as claimed in claim 3, wherein assembly further includes a printed circuit board extended from said support member, and wherein said IC chip is mounted on said printed circuit board.

6. A head suspension assembly as claimed in claim 1, wherein said at least one thin-film magnetic head element includes a magnetoresistive effect element.

7. A head suspension assembly as claimed in claim 6, wherein said magnetoresistive effect element is an anisotropic magnetoresistive effect element.

8. A head suspension assembly as claimed in claim 6, wherein said magnetoresistive effect element is a giant magnetoresistive effect element.

9. A head suspension assembly as claimed in claim 6, wherein said magnetoresistive effect element is a tunneling magnetoresistive effect element.

10. A head suspension assembly as claimed in claim 1, wherein said at least one thin-film magnetic head element includes an inductive recording element and a magnetoresistive

effect reproducing element.

11. A head suspension assembly as claimed in claim 10,  
wherein said magnetoresistive effect element is an anisotropic  
magnetoresistive effect element.

12. A head suspension assembly as claimed in claim 10,  
wherein said magnetoresistive effect reproducing element is a  
giant magnetoresistive effect element.

13. A head suspension assembly as claimed in claim 10,  
wherein said magnetoresistive effect reproducing element is a  
tunneling magnetoresistive effect element.